

REMARKS

Claims 1-30 are presently pending in this application. Claims 1-7, 9-15, 17-22, and 24-29 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,314,531 to Kram (hereinafter “Kram”). Claims 8, 16, 23 and 30 were rejected under 35 U.S.C. § 103(a) as being obvious under Kram in view of “Crash-Proof” by Derfler (hereinafter “Derfler”).

Claims 1-30 remain in this application.

Rejection of Claims 1, 9, 17 and 24 under § 102(e)

Applicants note that the claimed invention as amended is directed towards communications between an external network and a plurality of network servers in a private network. Each of independent claims 1, 9 and 17 each contain at least one element of a switching component receiving network communication data from an external network and directing the received network communication data to a plurality of network adapters for transmission to respective network servers. Similarly, independent claim 24 contains an element of directing received network communication data from an external network to network adapters for transmission to respective network servers. This flow of data traffic through the switching component of a computer-based switch to and from an external network is described throughout applicants’ specification:

“The computer-based switch... allows network communications streams from the servers through the switch to an external network to be conveniently monitored for testing the load-balancing function. ...The switching component directs network communication data it receives from the external network through the first network adapter to the second network adapters for transmission to the network servers.”

(Specification, p.3, lns. 5-18)

“[T]he computer-based switch is especially useful for testing the fail-over and load-balancing operations of network servere that communicate with an external network 100 through the computer-based network switch.”

(Id., p. 9, lns. 18-22)

“The switching component 80 directs incoming communication data received from the [external] network 100 through the network adapter 102 to the servers 84-88... Moreover, the use of the software-based switching component 80

allows communication data flows from the individual servers to the external network 100 to be monitored...”

(Id., p. 10, ln. 17 – p. 11, ln. 3)

In more detail, applicants describe an external network including an external network of client computers, and a private network of network servers. Applicants have amended their claims to clarify this distinction between the external and the private networks. The switching component of the computer-based network switch facilitates communication between the external network and the private network:

“The testing setup includes client computers 92-96 on the external network 100, which may be, for example, the Internet, a corporate intranet, or any suitable computer network. The incoming communication data received by the network adapter 102 are sent to the switching component 80, which then sends the communication data to the network adapters 74-78 and on to the servers 84-88. In the reverse direction, network traffic from the servers 84-88 to the external network 100 goes through their respective network adapters 74-78 to the switching component 80, which sends the traffic through the network adapter 102 to the external network 100.

“As shown in FIG. 2, the network servers 84-88 are also interconnected by a private network 114.”

(Id., p. 11, lns. 8-24).

Thus, the claimed invention permits communication from the external network to the network servers on the private network. The communication protocol between the clients on the external network and the servers on the private network need not be modified in any way – the computer-based network switch, and its switching component in particular, intermediate traffic between the two networks.

In contrast, Kram does not disclose such a switching component intermediating between a private and an external network. Kram discloses a system of several “test computers” connected over a network and running software to be tested. The network connection between the test computers is emulated by an “emulator host.” The teachings of Kram are directed to testing distributed software that runs *within* a single network (e.g., “A test computer can be connected to the physical subnet anywhere **in the network...**” Kram, col. 4, lns. 30-31, emphasis added). More particularly, the invention of Kram expressly requires redirection of packets sent by the test computers to the emulator host. This redirection is accomplished by

altering the MAC addresses associated with the IP addresses of the test computers, and by disabling the Address Resolution Protocol (ARP) updating function of the test computers. (see Id., col. 4, lns. 49-61). Without this modification on the test computers, the invention of Kram will not operate:

“The Address Resolution Protocol mechanisms must be disabled on each test machine otherwise they will update the ARP table with authentic MAC addresses and the traffic will no longer be directed to the emulator, **thus defeating the purpose of the present invention.**”

(Kram, col. 5, lns. 12-18, emphasis added.)

Kram is thus incapable of using a computer-based network switch to direct traffic between a private network and an external network of computers that have not been modified to alter the association between MAC and IP addresses. In fact, Kram does not teach or suggest a software or computer-based network switch at all. Instead, Kram distinguishes the job of network switching from the functions of the emulator host:

“The network interfaces of the emulator’s host are **connected to network switches** that are typically linked to a network backbone.”

(Id., col. 4, lns. 21-23, emphasis added.)

Applicants’ claimed invention, however, permits directing traffic between an external network and a private network of network servers via the switching component of a computer-based network switch. No modification of MAC or IP addresses by the client computers is necessary.

Because Kram does not disclose a limitation of claims 1, 9, 17 and 24, Applicant respectfully requests the allowance of these independent claims.

Rejection of Claims 2-7, 10-15, 18-22, and 25-29 under § 102(e)

As discussed above, Kram does not disclose a switching component for directing traffic between a private network of network servers and an external network. As claims 2-7, 10-15, 18-22, and 25-29 depend on independent base claims, they incorporate all the limitations of their respective base claims. Because some of those limitations are not found in the cited prior art, Applicants respectfully request the allowance of these dependent claims.

Rejection of Claims 8, 16, 23 and 30 under § 103(a)

A *prima facie* case of obviousness requires a suggestion or motivation to combine the teachings of the references. MPEP § 2142. A person holding ordinary skill in the art would not, however, be motivated to combine the teachings of Kram with the teachings of Derfler. As noted above, Kram is directed to a system for emulating a private network for the testing of distributed software. In contrast, Derfler teaches methods of load balancing requests made from an external network (e.g., Internet service requests). Because Kram specifically requires participating client computers to modify the MAC-IP addresses for its requests' destinations, as discussed above, the system of Kram could not be used with a general load balancing system for directing external requests, such as that described by Derfler, since such a combination would render either Kram or Derfler (or both) unsatisfactory for its intended purpose. MPEP § 2142.02.

Because a person holding ordinary skill in the art would not be motivated to combine the teachings of Kram with the teachings of Derfler, a *prima facie* case of obviousness has not been established. Applicants therefore respectfully request the allowance of these claims.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Phillip M. Pippenger, Reg. No. 46,055
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

Date: June 24, 2004